

REMARKS

Claims 13-16 are all the claims pending in the application; each of the claims has been rejected.

I. Rejection of Claims Under 35 U.S.C. §102

At page 3 of the Office Action, claims 13 and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by Davey et al. (U.S. Patent No. 5,409,818, issued April 25, 1995).

At pages 3-5 of the Office Action, the Examiner sets forth the steps of Applicants' claim 13, and points to the location of support for each step in Davey. While the Examiner provides no additional comments, it appears that the Examiner considers each of the steps recited in claims 13 and 16 to be taught by Davey.

Claim 13 recites a method for determining whether a portion of a selected DNA molecule encodes a gene transcription region (as opposed to an intron or other non-coding sequence) via amplification of RNA transcripts using selected primers.

In the Amendment filed July 29, 2005, claim 13 was amended to include a step of repeating the amplification method on "at least one other selected portion" of a DNA molecule (step (C) of claim 13). Thus, as amended the method requires repeating the method on two different portions of a selected DNA molecule. In the Amendment filed July 29, 2005, Applicants noted that Davey does not teach amplification of two different portions of a selected DNA molecule.

At page 5 of the Office Action, the Examiner indicates that she believes Davey does teach amplification of two different regions, citing to col. 3, lines 26-58, of the Davey.

Applicants respectfully traverse the Examiner's position for the following reasons. A close reading and understanding of Davey reveals that the patent only teaches repetition of the patented method on the same region of the same polynucleotide. Davey teaches the amplification of a single-stranded RNA molecule such that multiple copies of the same RNA molecule are produced. Indeed, as stated at col. 3 of Davey, lines 3-4, each cycle of the amplification "generates a plurality of copies of product from one substrate." Moreover, it is stated at col. 3, lines 5-7, that the amplification increases the quantity of "one specific nucleic acid." Davey further states that the claimed method can be used to increase the purity of a specific nucleic acid sequence (col. 3, lines 8-10).

While the Examiner cites to col. 3, lines 26-58, of Davey as support for her position that the amplification is repeated on other selected portions of the DNA molecule, Applicants respectfully assert that Davey does not support this position. In order for the amplification to be repeated on at least one other selected portion of the selected DNA molecule, primers corresponding to a second portion would need to be used. Further, a different RNA molecule would be amplified. It does not appear that Davey teaches either. Davey merely teaches repetition of the amplification process, using RNA molecules having the same sequence as the first template, and using the same primers. As such, the amplification is not being repeated on an RNA molecule corresponding to a second portion of the selected DNA molecule.

The Examiner's interpretation of the phrase "a selected portion of" provided at page 2 of the Office Action supports this position. Therein, the Examiner states that the phrase "a selected portion of" is being interpreted as "any portion of any DNA sequence that has been selected by virtue of amplifying it." Thus, a selected portion of a DNA sequence is one that has been

amplified. Because claims 13 and 16 of the pending application require amplification of “at least one other selected portion of said selected DNA molecule”, by virtue of the Examiner’s definition the claims require the amplification of at least two portions of a DNA sequence. In Davey, the patented method only teaches the amplification of one selected portion of a DNA sequence. As only one set of primers is used, and the method repeatedly amplifies one RNA sequence, and it is only one portion of a selected DNA sequence that is being amplified.

Claims 13 and 16 of the pending application require the amplification of at least one other selected portion of a DNA sequence. Thus, the claims require amplification of two different portions of a DNA sequence. Indeed, as shown in Figure 1, the method is repeated on five different portions of a DNA sequence. As the method of Davey does not teach the amplification of at least two different portions of a selected DNA molecule, the method of Davey does not teach each element of the rejected claims and thus does not anticipate the claimed invention.

In addition, while the Examiner states that “Davey et al. teach a method for determining whether a selected DNA molecule encodes a gene expression region”, Applicants respectfully contend that Davey only teaches a method of amplifying a selected RNA molecule. There is no teaching or suggestion in Davey that the patented method could be used to determine whether a selected DNA molecule encodes a gene expression region.

In view of these comments, it is clear that Davey does not teach each and every limitation of claims 13 and 16 and thus does not anticipate these claims under 35 U.S.C. §102(b). Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

II. Rejection of Claims Under 35 U.S.C. §103

At page 5 of the Office Action, claims 14 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Davey et al. in view of Wittwer et al. (U.S. Patent No. 6,503,720).

The Examiner repeats the position previously set forth in the Office Action dated January 4, 2005, namely that Davey teaches the method set forth in claims 14 and 15, with the exception that Davey does not teach all of step (c) of claim 14, that is, the use of an intercalating fluorescence dye. However, the Examiner contends that Wittwer teaches such dyes, and that it would have been *prima facie* obvious to one of ordinary skill in the art to combine the method of Davey with the use of the dye of Wittwer.

Applicants incorporate herein the comments above concerning Davey, namely, that because Davey does not teach the amplification of at least two different portions of a selected DNA molecule, the method of Davey does not teach each element of the rejected claims.

Claim 14 was also amended in the Amendment dated July 29, 2005, to include the step of repeating the amplification on at least one other portion of the selected DNA molecule. As Davey does not appear to teach this additional step, Davey does not teach or suggest the claimed method. Because Wittwer also does not teach the additional step, it also does not teach or suggest, alone or in combination with Davey, the claimed method.

In view of these comments, it is clear that the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. §103(a) over Davey in view of Wittwer. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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